

IN THE APPLICATION

OF

Patrick T. Black

FOR

Baby Stroller with Engageable Locking Device

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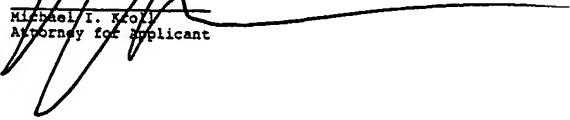
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BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates generally to infant stroller and, more specifically, to a stroller having a pivotal locking device fastened to the stroller legs whereby another stroller having a similar locking device can be fixedly attached thereto. The tandem strollers perform as a single stroller and can easily be separated to function as independent strollers.

Description of the Prior Art

There are other carriage devices designed for toddlers. Typical of these is U.S. Patent No. 1,707,186 issued to Chatfield on March 26, 1929.

Another patent was issued to Crim, et al. on September 16, 1980 as U.S. Patent No. 4,222,132. Yet another U.S. Patent No. 4,288,089 was issued to Thiesson on September 8, 1981 and still yet another was issued on February 21, 1989 to Redmond, et al. as U.S. Patent No. 4,805,938.

Another patent was issued to Clausen on November 13, 1990 as U.S. Patent No. 4,969,656. Yet another U.S. Patent No. 5,522,121 was issued to Fraynd, et al. on June 4, 1996. Another was issued to Aaron et al. on July 6, 1999 as U.S. Patent No. 5,918,892 and still yet another was issued on July 11, 2000 to Yang as U.S. Patent No. 6,086,087.

Another patent was issued to Brewington, et al. on March 4, 2003 as U.S. Patent No. 6,527,294. Yet another U.K. Patent No. GB 2 152 447 was issued to Giordani on August 7, 1985.

U.S. Patent Number 1,707,186

Inventor: R. H. Chatfield

Issued: March 26, 1929

A carriage having extendible axles for also supporting a go-cart when in extended positions,
and an extendible handle for connection with the go-cart when in extended position.

U.S. Patent Number 4,222,132

Inventor: Paul E. Crim, et al.

Issued: September 16, 1980

An apparatus for transporting a patient from a zone having one level or type of contamination to a zone having a lesser level of such contamination, while minimizing the likelihood of contamination from the first zone being carried by the transport apparatus into the second zone. The apparatus includes a patient transport stretcher provided with means for locking it in end-to-end relationship with a wheeled surgical bed. The bed and stretcher are provided with rollers by which a patient-carrying litter may be easily moved from one to the other.

U.S. Patent Number 4,288,089

Inventor: Henry F. Thiessen

Issued: September 8, 1981

This invention is an attachment apparatus operable to interconnect two bicycle members in a side-by-side relationship. The attachment apparatus includes a main support coupling means to interconnect the bicycle members and a steering coordinator means to interconnect the steering mechanism on each bicycle member. The main support coupling means is connected to each steering post housing on each bicycle member to permit a constant distance between each bicycle member while permitting relative rotation therebetween. The steering coordinator means interconnects the turning forks on each bicycle member to assure joint and same turning of each front wheel member when steering the bicycle members.

U.S. Patent Number 4,805,938

Inventor: Thomas Redmond, et al.

Issued: February 21, 1989

A device is provided for connecting two baby strollers together consisting of a pair of bracket units spaced apart and clamped between frames of the baby strollers so that one person can operate the strollers simultaneously for transporting two babies therein.

U.S. Patent Number 4,969,656

Inventor: Kenneth A. Clausen

Issued: November 13, 1990

This stroller has a series of seats at cut-out areas in a tray supported on columns secured to a wheeled floor panel. A tongue is also secured to the floor panel, the entire assembly being marketable as a kit of an easily assembled components. The seats are slings of fabric, the ends of which traverse slots in the tray. These are secured with dowels engaging loops in the fabric above the tray. The slots are enlarged on the top surface of the tray to retain the dowels against endwise slippage.

U.S. Patent Number 5,522,121

Inventor: Saul Fraynd, et al.

Issued: June 4, 1996

A device is provided for engaging and disengaging any two baby strolling devices consisting of two components spaced apart and coupled by a snap release connector. When mounted between the frames of any two baby strolling devices (given that it can rotate at any angle), instandem allows any one person to operate the two strolling devices simultaneously as well as

U.S. Patent Number 5,918,892

Inventor: Christine Aaron, et al.

Issued: July 6, 1999

A device for use in conjunction with strollers for securely connecting single strollers together, allowing two or more children, to be safely and effectively transported. The stroller connecting device(s) are easily detachable. The apparatus comprises an adjustable supporting member with a clamping, or other fastening, mechanism at each end. The clamping mechanisms, generally, have two jaws, rotatably connected to one another to grasp and lock a stroller shaft. The fastening mechanism preferably fastens securely onto the shafts of the strollers, providing stable operation during movement. Each jaw, of the fastening mechanism, receives and firmly grasps one shaft of the stroller. The support is preferably comprised of two tubes, with the relative position of the tubes to one another being adjustable, and thus, allowing the distance from one stroller to the other to be variable. Together, the supporting member and fastening mechanisms allow the connecting apparatus to securely, safely and rigidly connect two or more strollers. The stroller connecting devices are generally placed in two of three locations on the shafts of each stroller. Usually, two connecting devices are sufficient to provide the necessary control and stability.

U.S. Patent Number 6,086,087

Inventor: Chih-Huang Yang

Issued: July 11, 2000

A multi-seat stroller includes a stroller frame having a front wheel-carrying portion, a rear wheel-carrying portion spaced apart from the front wheel-carrying portion in a longitudinal direction and mounted with a rear footrest member, and a seat-mounting portion extending in the longitudinal direction between the front and rear wheel-carrying portions. Each of a non-detachable seat member and a detachable seat member has a backrest portion and a horizontal seat portion provided with a retaining unit for mounting pivotally the backrest portion on the seat portion such that the backrest portion can be selectively disposed in one of a folded state, where the backrest portion overlies the seat portion, and an extended state, where the backrest portion extends vertically from the seat portion. The seat portion of the non-detachable seat member is mounted fixedly on the seat-mounting portion of the stroller frame, whereas the seat portion of the detachable seat member is movably disposed on the seat-mounting portion so as to be spaced apart from the non-detachable seat member in the longitudinal direction. A seat-locking unit is provided on the seat-mounting portion of the stroller frame for retaining removably the seat portion of the detachable seat member on the seat-mounting portion.

U.S. Patent Number 6,527,294

Inventor: Mark Everett Brewington, et al.

Issued: March 4, 2003

A convertible tandem stroller includes a releasable lateral and longitudinal coupling system for permitting cojoint and independent movement of a pair of strollers. The coupling system does not have to be removed and stowed for independent operation. To permit compact lateral coupling of the strollers, one of the front wheels may be raised during tandem operation by a hinge assembly and tethering connector.

U.K. Patent Number 2,152,447

Inventor: Gloria Giordani, et al.

Issued: August 7, 1985

Pushchair with a reclinable backrest, characterized by the fact that it comprises a frame, a seat having the said backrest supported on a first structure connected to the said frame, a base, two side walls supported on a second structure hinged to the said first structure in such a manner as to adjust the angle of the latter in relation to the said second structure, and a body for each of the said side walls for connecting the said backrest to the respective said side wall and so enabling various angular adjustments to be made to the said backrest.

While these strollers may be suitable for the purposes for which they were designed, they would not be as suitable for the purposes of the present invention, as hereinafter described.

SUMMARY OF THE PRESENT INVENTION

The present invention discloses a front and rear stroller having a pivotal locking device fastened to the stroller legs whereby the front and rear stroller can be removably fixedly attached thereto. The tandem strollers perform as a single stroller and can easily be separated to function as independent strollers. The connectors can be stowed against the frame members when desirable using a locking pin. The prior art currently provides for the purchase of a side by side double stroller without consideration of whether the user already possesses one stroller. The present invention provides means whereby parents can purchase a single stroller having a locking element forming an integral part therewith and if a second stroller is needed, another stroller having the locking element can be purchased and joined with the first to form a tandem stroller, which can be easily detached at the user discretion.

A primary object of the present invention is to provide a stroller having means for engaging a second similar stroller and becoming locked thereto.

Another object of the present invention is to provide a stroller having pivotal members fastened to the leg elements of said stroller.

Yet another object of the present invention is to provide a stroller wherein said pivotal members form one part of a locking device.

Still yet another object of the present invention is to provide a stroller wherein said locking device provides means whereby similar locking device strollers are tandem when engaged.

Another object of the present invention is to provide a stroller that when joined with another stroller having the locking device the strollers perform as a single stroller.

Yet another object of the present invention is to provide means whereby a user can selectively attach or detach a first and second stroller.

Additional objects of the present invention will appear as the description proceeds.

The present invention overcomes the shortcomings of the prior art by providing a stroller having a pivotal locking device fastened to the stroller legs whereby another stroller having a similar locking device can be fixedly attached thereto. The tandem strollers perform as a single stroller when attached and can easily be separated to function as independent strollers.

The foregoing and other objects and advantages will appear from the description to follow. In the description reference is made to the accompanying drawing, which form a part hereof, and in which is shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments will be described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that other embodiments may be utilized and that structural

changes may be made without departing from the scope of the invention. In the accompanying drawings, like reference characters designate the same or similar parts throughout the several views.

The following detailed description is, therefore, not to be taken in a limiting sense, and the scope of the present invention is best defined by the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

In order that the invention may be more fully understood, it will now be described, by way of example, with reference to the accompanying drawings in which:

Figure 1 is an illustrative view of the present invention in use.

Figure 2 is an illustrative view of the present invention in use.

Figure 3 is an illustrative view of the present invention in use.

Figure 4 is a side view of the present invention.

Figure 5 is a perspective view of the present invention.

Figure 6 is a side view of the present invention.

Figure 7 is a perspective view of the present invention.

Figure 8 is a top view of the coupling in the locked position and the spring collapsed.

Figure 9 is a top view of the coupling in the open position and the spring extended.

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LIST OF REFERENCE NUMERALS

With regard to reference numerals used, the following numbering is used throughout the drawings.

10	present invention
12	front stroller
14	rear stroller
16	user
18	rear frame member
20	front frame member
22	first coupling member
24	second coupling member
26	sliding support member
28	securing pin
30	pivot pin
32	coupling
34	spring
36	frame apertures
38	aperture
40	locking pin

42 child compartment

44 wheels

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The following discussion describes in detail one embodiment of the invention (and several variations of that embodiment). This discussion should not be construed, however, as limiting the invention to those particular embodiments since practitioners skilled in the art will recognize numerous other embodiments as well. For a definition of the complete scope of the invention, the reader is directed to the appended claims.

Turning to Figure 1, shown therein is an illustrative view of the present invention 10 in use. The present invention 10 discloses a convertible tandem stroller with a releasable longitudinal coupling system therein for permitting conjoined and independent movement of multiple strollers 12, 14 which can be controlled by one user 16. The coupler of the present invention 10 is shown attached to the left and right, front and rear frame members of strollers 12, 14 with each stroller having a child carrying compartment 42 and wheels 44.

Turning to Figure 2, shown therein is an illustrative view of the present invention 10 in use. The present invention 10 discloses a convertible tandem stroller with a releasable longitudinal coupling system therein for permitting conjoined and independent movement of multiple strollers herein showing rear stroller 14. Also shown are the rear frame member 18 of the front stroller, the front frame member 20 of the rear stroller 14, the first coupling member or rear connection support member 22 and the second coupling member or front connection support member 24.

Turning to Figure 3, shown therein is an illustrative view of the present invention 10 in use. The present invention 10 discloses a convertible tandem stroller with a releasable longitudinal coupling system therein for permitting conjoined and independent movement of multiple strollers. Shown are the rear frame member 18 of the front stroller, the front frame member 20 of the rear stroller, the rear connection support member 22 and the front connection support member 24. Also shown are front and rear sliding support members 26 with aperture 38 along with the slidable, removable securing pin 28 and corresponding apertures. Also shown are front and rear frame apertures 36 and multiple pivot pins 30 and corresponding apertures. Locking pin 40 is placed in aperture 38 to lock member 26 in place. The frame members 18, 20 each have first 30, second 38, and third 36 transverse frame apertures therein.

Turning to Figure 4, shown therein is a side view of the present invention 10. The present invention 10 discloses a convertible tandem stroller with a releasable longitudinal coupling system therein for permitting conjoined and independent movement of multiple strollers. Shown are the rear frame member 18 of the front stroller, the front frame member 20 of the rear stroller, the rear connection support member 22 and the front connection support member 24. Also shown are the sliding support members 26 with aperture 38 along with the slidably removable securing pin 28. Also shown are multiple pivot pins 30 and frame apertures 38 which mates with aperture 38 and receives a locking pin 40.

Turning to Figure 5, shown therein is a perspective view of the present invention. The present invention discloses a convertible tandem stroller with a releasable longitudinal coupling

system therein for permitting conjoined and independent movement of multiple strollers. Shown are the rear frame member 18 of the front stroller, the front frame member 20 of the rear stroller, the rear connection support member 22 in the stowed position and the front connection support member 24 in the stowed position. Also shown are pivot pins 30 and securing pin 28 partially removed from its aperture. Also shown is sliding member 26 with aperture 38. By way of comparison, Figures 3 and 4 show the present invention 10 in a first operative position with rear connection 22 and front connection being coupled at 28 to each other with each having a horizontal member coupled together at 28 and an angled member 26; whereas, Figures 5, 6 and 7 show the members 22, 24 in a second stowed position against the frame members 18, 20. In the stowed position, a locking pin 40 would be inserted through apertures 36, 38 so as to lock sliding support member 26 to the frame members 22, 24. Securing pin 28 is removed when the members 22, 24 are in the stowed position and secured in place when the members 22, 24 are coupled together.

Turning to Figure 6, shown therein is a side view of the present invention. The present invention discloses a convertible tandem stroller with a releasable longitudinal coupling system therein for permitting conjoined and independent movement of multiple strollers. Also shown are stowed rear connection 22, stowed front connection 24, pivot pins 30, and securing pins 28. Also shown are member 26 and aperture 38 for receiving locking pin 40.

Turning to Figure 7, shown therein is a perspective view of the present invention. The present invention discloses a convertible tandem stroller with a releasable longitudinal coupling system therein for permitting conjoined and independent movement of multiple strollers. Shown are

the rear frame member 18 of the front stroller, the front frame member 20 of the rear stroller, the rear connection support member 22 and the stowed front connection support member 24. Also shown is the sliding support member 26 with aperture 38 for receiving locking pin 40 along with the removable securing pin 28. Also shown are pivot pins 30 and frame aperture 36.

Turning to Figure 8, shown therein is a top view of the coupling 32 in the locked position and the spring 34 collapsed. The present invention discloses a convertible tandem stroller with a releasable longitudinal coupling system 32 therein for permitting conjoined and independent movement of multiple strollers. Also shown are front 24 and rear 22 connections, pivot pins 30, and securing pin 28.

Turning to Figure 9, shown therein is a top view of the coupling 32 in the open position and the spring 34 extended. The present invention discloses a convertible tandem stroller with a releasable longitudinal coupling system 32 therein for permitting conjoined and independent movement of multiple strollers. Also shown are front 24 and rear 22 connections, pivot pins 30, and securing pin 28.